1985 I&CS Annual Index

The following is a guide to all of the articles published in *I&CS* magazine during 1985. You can reference the articles by subject, title, and/or author. The number following the month of issue is the page number on which the article began.

SUBJECTS

Artificial intelligence
AI market prospects are good; MARCH; 41
Artificial intelligence moves into industrial and process control; MARCH; 45
I&CS Guide to artificial intelligence products; MARCH; 50
Setting up an Expert System; MARCH; 54
Data acquisition and control: A look ahead; MAY; 63
Bus boards
What's new in bus boards?; JUNE; 45
Buyers guide; DEC
CAD/CAM/CIM
Automated Factory Series 31: CAD/CAM/CIM – Now and in the future; APRIL; 59
Market trends in the Automated Factory; JUNE SPECIAL ISSUE; 9
The Automated Factory – an engineering challenge; JUNE SPECIAL ISSUE; 16
Planning for CAD/CAM; JUNE SPECIAL ISSUE; 44
Material handling: Japan's KANBAN vs MRP II; JUNE; 51
Internetworking: Key to computer integrated manufacturing; JULY; 35
Chart recorders
Digitized recorders move into analog territory; JULY; 61
Communications & networks
Networking for Control Series 1 Networking: Its importance to modern control; FEB; 27
Networking for Control Series 2 Types of networks; MARCH; 35
Networking for Control Series 3 Standards, organizations, and the seven-layer OSI model; APRIL; 49
Networking for Control Series 4 The physical and data link layers of the OSI model; MAY; 32
Networking for Control Series 5 The higher-level network layers; JUNE; 51
Setting up minicomputer communications; JUNE SPECIAL ISSUE; 36
Internetworking: Key to computer integrated manufacturing; JULY; 35
Networking for control series 7 Planning and installing the network; AUG; 51
Distributed system puts host functions on plant floor; AUG; 58
Networking for Control Series 8 Managing the network; SEPT; 115
Networking for control series 9 Local area network applications roundup; OCT; 31
Trends in distributed process control; NOV; 23
Networking for control series 10 Maintaining the local area network; NOV; 27
Test your knowledge of local area networks; DEC; 27
Computers
Tolerating faults; FEB; 35
Flow computers: What's happening?; FEB; 69
Guide to Flow Measurement Wall Chart; FEB; opp 60
AI market prospects are good; MARCH; 41
I&CS Guide to artificial intelligence products; MARCH; 50
Automated Factory Series 31 CAD/CAM/CIM – Now and in the future; APRIL; 59
Laser printers zap graphics costs; APRIL; 71
Matching computer power to factory tasks; JUNE SPECIAL ISSUE; 29
Setting up minicomputer communications; JUNE SPECIAL ISSUE; 36
Mechanical input devices: choices abound; JULY; 41
Industrial color graphics; JULY; 49
Voice I/O improves productivity; JULY; 53
Cell Controller Selection Guide Wall Chart; NOV; opp 74
The minicomputer's newfound power; DEC; 22
Graphics
Display technologies for control applications; FEB; 49
Laser printers zap graphics costs; APRIL; 71
Computer graphics: Buying the resolution you need; JUNE; 59
Industrial color graphics; JULY; 49
Digitized recorders move into analog territory; JULY; 61
Controllers
Micro power comes to 1/4 DIN controllers; JUNE; 33
Current sensing
Look what you can do with current sensing; JUNE; 62
Data acquisition and logging
What's new in data loggers and data acquisition systems?; MAY; 45
How to buy data acquisition equipment; MAY; 53
Data acquisition and control: A look ahead; MAY; 63
Data logger helps reduce costs in brewery; JUNE; 71
Data logging and reporting for effective batch control; JULY; 29
Displays
Display technologies for control applications; FEB; 49
Computer graphics: Buying the resolution you need; JUNE; 59
Industrial color graphics; JULY; 49
Digitized recorders move into analog territory; JULY; 61
Distributed control
Distributed system puts host functions on plant floor; AUG; 58
PCs and distributed control: Partners in productivity; SEPT; 45
Trends in distributed process control; NOV; 23
EMI
Automated Factory Series 30 How to keep input signals "clean"; MARCH; 29
Encoders
Get accurate position data with encoders and resolvers; NOV; 47
Energy management
Energy management system pays for itself in six months; JULY; 68
Expert systems
AI market prospects are good; MARCH; 41
Artificial intelligence moves into industrial and process control; MARCH; 45
Setting up an Expert System; MARCH; 54
Fault tolerance
Multiprocessing boosts performance of programmable controllers; JAN; 65
Tolerating faults; FEB; 35
Factory automation
Networking for Control Series 1 – Networking: Its importance to modern control; FEB; 27
Automated Factory Series 30 – How to keep input signals "clean"; MARCH; 29
PC applications roundup; MARCH; 65
Automated Factory Series 31 – CAD/CAM/CIM: Now and in the future; APRIL; 59
Market trends in the Automated Factory; JUNE SPECIAL ISSUE; 9
The Automated Factory – an engineering challenge; JUNE SPECIAL ISSUE; 16
Planning for factory automation; JUNE SPECIAL ISSUE; 23
Matching computer power to factory tasks; JUNE SPECIAL ISSUE; 29
Planning for CAD/CAM; JUNE SPECIAL ISSUE; 44
Material handling: Japan's KANBAN vs MRP II; JUNE SPECIAL ISSUE; 51
Programmable controllers in the factory; JUNE SPECIAL ISSUE; 57
Automated Factory Series 32 – Digital motor drives keep complex paper machines humming; AUG; 31
Personal computers gain ground on factory/plant floor; SEPT; 73
Toughening up PCs for industrial use; SEPT; 91
Flow
Flow computers: What's happening?; FEB; 69
Gases, toxic & combustible
Controlling the hazards of toxic and combustible gases; AUG; 45
Hazards
Controlling the hazards of toxic and combustible gases; AUG; 45
I/O
Intelligent I/O: New Smarts for PCs; JAN; 59
Automated Factory Series 30 – How to keep input signals "clean"; MARCH; 29
What's new in data loggers and data acquisition systems?; MAY; 45
How to buy data acquisition equipment; MAY; 53
Data acquisition and control: A look ahead; MAY; 63
Voice I/O improves productivity; JULY; 53
Intelligent remote I/O saves money; AUG; 57
Industrial I/O enhances PC power; SEPT; 81
Industry leaders
Industry Leaders look at 1985 – Part 1; JAN; 28
Industry leaders look at 1985 – Part 2; FEB; 57
Infrared temp sensors
IR sensors: A good approach for industrial and process applications; JUNE; 36
Integrated circuit temp sensors
Improved IC sensors move in on thermistor, RTD, and T/C territory; JUNE; 30
Inspection & test
Automated inspection in the factory: A technology update; AUG; 37
Keyboards
Mechanical input devices: choices abound; JULY; 41
Laser Printers
Laser printers zap graphics costs; APRIL; 71
Level
Precision level gauges measure steam generator's oil supply; AUG; 62
Level monitoring and control: What's happening?; OCT; 37
Management
Project Management Exam Test your knowledge of project management; JAN; 93

Planning for factory automation; JUNE SPECIAL ISSUE; 23
Material handling: Japan's KANBAN vs MRP II; JUNE SPECIAL ISSUE; 51
Networking for Control Series 8—Managing the network; SEPT; 115
Man/machine interfacing
Display technologies for control applications; FEB; 49
Laser printers zap graphics costs; APRIL; 71
Computer graphics: Buying the resolution you need; JUNE; 59
Mechanical input devices: choices abound; JULY; 41
Industrial color graphics; JULY; 49
Voice I/O improves productivity; JULY; 53
Digitized recorders move into analog territory; JULY; 61
PCs and distributed control: Partners in productivity; SEPT; 45
Networking for Control Series 8—Managing the network; SEPT; 115
Material handling
Material handling: Japan's KANBAN vs MRP II; JUNE SPECIAL ISSUE; 51
Microcomputers
Matching computer power to factory tasks; JUNE SPECIAL ISSUE; 29
Balance and computer verify metering pump accuracy; AUG; 65
Personal computers gain ground on factory/plant floor; SEPT; 73
Industrial I/O enhances PC power; SEPT; 81
Toughening up PCs for industrial use; SEPT; 91
Update on PC operating systems for control; OCT; 50
Minicomputers
Matching computer power to factory tasks; JUNE SPECIAL ISSUE; 29
Setting up minicomputer communications; JUNE SPECIAL ISSUE; 36
The minicomputer's newfound power; DEC; 22
Motion control
Indexers add precision to stepping motor motion control; NOV; 33
Get accurate position data with encoders and resolvers; NOV; 47
Using magnetic speed sensors; NOV; 51
Motor drives
Automated Factory Series 32—Digital motor drives keep complex paper machines humming; AUG; 31
Multiprocessing
Multiprocessing boosts performance of programmable controllers; JAN; 65
Tolerating faults; FEB; 35
Networks—see Communication & networks
OP amps
IC amp detects open thermocouples; MARCH; 85
Simple circuit compensates platinum temperature sensor; JUNE; 66
Operating systems
Update on PC operating systems for control; OCT; 50
Personal computers
PCs and distributed control: Partners in productivity; SEPT; 45
Personal computers gain ground on factory/plant floor; SEPT; 73
Industrial I/O enhances PC power; SEPT; 81
Toughening up PCs for industrial use; SEPT; 91
Update on PC operating systems for control; OCT; 50
Pneumatics
Pneumatic systems in the electronic age; SEPT; 41
Pressure transducers make laminating more precise; OCT; 54
Pressure
Pressure transducers make laminating more precise; OCT; 54
The 10th annual pressure monitoring survey; APRIL; 39
Printers, laser
Laser printers zap graphics costs; APRIL; 71
Programmable controllers
What's new in programmable controllers; JAN; 37
Intelligent I/O: New Smarts for PCs; JAN; 59
The next generation of PCs; JAN; 62
Multiprocessing boosts performance of programmable controllers; JAN; 65
Tolerating faults; FEB; 35
PC applications roundup; MARCH; 65
Programmable Controller Selection Guide Wall Chart; MARCH; opp 72
PC and computer drill holes in granite; JUNE; 65
Programmable controllers in the factory; JUNE SPECIAL ISSUE; 57
Intelligent remote I/O saves money; AUG; 57
Cell Controller Selection Guide Wall Chart; NOV; opp 74
Position sensors
Get accurate position data with encoders and resolvers; NOV; 47
Position and proximity sensors: Getting smaller, smarter, cheaper; NOV; 59
Project management
Project Management Exam—Test your knowledge of project management; JAN; 93
Pumps, Metering
Balance and computer verify metering pump accuracy; AUG; 65
RTDs
Simple circuit compensates platinum temperature sensor; JUNE; 66
Statistical process control
Automated inspection in the factory: A technology update; AUG; 37
Recorders
Digitized recorders move into analog territory; JULY; 61
Digital recorder monitors reinforcing cable temperature; AUG; 60
Robotics
Machine vision and robotics: A powerful combo; SEPT; 33
Sensors, Transducers
Flow computers: What's happening?; FEB; 69
Stainless tubing aids accuracy of radiation analysis system; FEB; 79
IC amp detects open thermocouples; MARCH; 85
The 10th annual pressure monitoring survey; APRIL; 39
Data acquisition and control: A look ahead; MAY; 63
The Nicrosil-Nisil thermocouple; JUNE; 27
Temperature monitoring and control update; JUNE; 30
IR sensors: A good approach for industrial and process applications; JUNE; 36
Improved IC sensors move in on thermistor, RTD, and T/C territory; JUNE; 30
Look what you can do with current sensing; JUNE; 62
Simple circuit compensates platinum temperature sensor; JUNE; 66
Controlling the hazards of toxic and combustible gases; AUG; 45
Precision level gauges measure steam generator's oil supply; AUG; 62
Level monitoring and control: What's happening?; OCT; 37
Pressure transducers make laminating more precise; OCT; 54
The decade of the industrial sensor; NOV; 41
Get accurate position data with encoders and resolvers; NOV; 47
Using magnetic speed sensors; NOV; 51
Position and proximity sensors: Getting smaller, smarter, cheaper; NOV; 59
Software
Artificial intelligence moves into industrial and process control; MARCH; 45
I&CS Guide to artificial intelligence products; MARCH; 50
Setting up an Expert System; MARCH; 54
Personal computers gain ground on factory/plant floor; SEPT; 73
Update on PC operating systems for control; OCT; 50
Speed sensors
Using magnetic speed sensors; NOV; 51
Stepping motors
Indexers add precision to stepping motor motion control; NOV; 33
Test & inspection
Automated inspection in the factory: A technology update; AUG; 37
Temperature
The NicrosiL-Nisil thermocouple; JUNE; 27
Temperature monitoring and control update; JUNE; 30
IR sensors: A good approach for industrial and process applications; JUNE; 36
Improved IC sensors move in on thermistor, RTD, and T/C territory; JUNE; 30
Micro power comes to 1/4 DIN controllers; JUNE; 33
Simple circuit compensates platinum temperature sensor; JUNE; 66
Digital recorder monitors reinforcing cable temperature; AUG; 60
Temperature control valves keep chemical wastes on fire; DEC; 40
Transducers—see Sensors, Transducers
Thermocouples
IC amp detects open thermocouples; MARCH; 85
The NicrosiL-Nisil thermocouple; JUNE; 27
Temperature monitoring and control update; JUNE; 30
Tubing, stainless
Stainless tubing aids accuracy of radiation analysis system; FEB; 79
Valves
Ninth annual control valve update; JAN; 87
Temperature control valves keep chemical wastes on fire; DEC; 40
Vision
Automated inspection in the factory: A technology update; AUG; 37
Machine vision and robotics: A powerful combo; SEPT; 33
Voice
Voice I/O improves productivity; JULY; 53
Wall charts
Guide to Flow Measurement; FEB; opp 60
Programmable Controller Selection Guide; MARCH; opp 72
Industrial Network Selection Guide; SEPT; opp 120
Cell Controller Selection Guide; NOV; opp 74

TITLES

AI market prospects are good; MARCH; 41
Artificial intelligence moves into industrial and process control; MARCH; 45
The Automated Factory—an engineering challenge; JUNE SPECIAL ISSUE; 16
Automated inspection in the factory: A technology update; AUG; 37
Balance and computer verify metering pump accuracy; AUG; 65
CAD/CAM/CIM—Now and in the future; APRIL; 59
Cell Controller Selection Guide Wall Chart; NOV; opp 74
Computer graphics: Buying the resolution you need; JUNE; 59
Control Expo '85 boasts over 160 exhibitors; MAY;39
Controlling the hazards of toxic and combustible gases; AUG; 45
Data acquisition and control: A look ahead; MAY; 63
Data logger helps reduce costs in brewery; JUNE; 71
Data logging and reporting for effective batch control; JULY; 29

The decade of the industrial sensor; NOV; 41
Digitized recorders move into analog territory; JULY; 61
Digital motor drives keep complex paper machines humming; AUG; 31
Digital recorder monitors reinforcing cable temperature; AUG; 60
Directory of Manufacturers; DEC Buyers' Guide; B43
Display technologies for control; FEB; 49
Distributed system puts host functions on plant floor; AUG; 58
Electro/85 and Mini/Micro to feature 600+ exhibitors; APRIL; 77
Energy management system pays for itself in six months; JULY; 68
Flow computers: What's happening?; FEB; 69
The higher-level network layers; JUNE; 51
Get accurate position data with encoders and resolvers; NOV; 47
Guide to Flow Measurement Wall Chart; FEB; opp 60
How to buy data acquisition equipment; MAY; 53
How to keep input signals "clean"; MARCH; 29
I&CS BUYERS' GUIDE; DEC; opp 26
IC amp detects open thermocouples; MARCH; 85
Improved IC sensors move in on thermistor, RTD, and T/C territory; JUNE; 30
Indexers add precision to stepping motor motion control; NOV; 33
Industrial color graphics; JULY; 49
Industrial I/O enhances PC power; SEPT; 81
Industrial Network Selection Guide Wall Chart; SEPT; opp 120
Industry Leaders look at 1985—Part 1; JAN; 28
Industry leaders look at 1985—Part 2; FEB; 57
I&CS Guide to artificial intelligence products; MARCH; 50
Intelligent remote I/O saves money; AUG; 57
Intelligent I/O: New Smarts for PCs; JAN; 59
Internetworking: Key to computer integrated manufacturing; JULY; 35
IR sensors: A good approach for industrial and process applications; JUNE; 36
Laser printers zap graphics costs; APRIL; 71
Level monitoring and control: What's happening?; OCT; 37
Local area network applications roundup; OCT; 31
Look what you can do with current sensing; JUNE; 62
Machine vision and robotics: A powerful combo; SEPT; 33
Maintaining the local area network; NOV; 27
Managing the network; SEPT; 115
Market trends in the Automated Factory; JUNE; SPECIAL ISSUE; 9
Matching computer power to factory tasks; JUNE SPECIAL ISSUE; 29
Material handling: Japan's KANBAN vs MRP II; JUNE SPECIAL ISSUE; 51
Mechanical input devices: choices abound; JULY; 41
Micro power comes to 1/4 DIN controllers; JUNE; 33
The minicomputer's newfound power; DEC; 22
Multiprocessing boosts performance of programmable controllers; JAN; 65
Networking: Its importance to modern control; FEB; 27
The next generation of PCs; JAN; 62
The Nicrosil-Nisil thermocouple; JUNE; 27
Ninth annual control valve update; JAN; 87
PC and computer drill holes in granite; JUNE; 65
PC applications roundup; MARCH; 65
PC show doubles its exhibitor list; MARCH; 71
PCs and distributed control: Partners in productivity; SEPT; 45
Personal computers gain ground on factory/plant floor; SEPT; 73
The physical and data link layers of the OSI model; MAY; 32
Planning and installing the network; AUG; 51
Planning for CAD/CAM; JUNE SPECIAL ISSUE; 44
Planning for factory automation; JUNE SPECIAL ISSUE; 23
Pneumatic systems in the electronic age; SEPT; 41
Position and proximity sensors: Getting smaller, smarter, cheaper; NOV; 59
Precision level gauges measure steam generator's oil supply; AUG; 62
Pressure transducers make laminating more precise; OCT; 54
Product Index Dec Buyers' Guide; B1
Programmable Controller Selection Guide Wall Chart; MARCH; opp 72
Programmable controllers in the factory; JUNE SPECIAL ISSUE; 57
Project Management Exam Test your knowledge of project management; JAN; 93
Setting up an Expert System; MARCH; 54
Setting up minicomputer communications; JUNE SPECIAL ISSUE; 36
Simple circuit compensates platinum temperature sensor; JUNE; 66
Standards, organizations, and the seven-layer OSI model; APRIL; 49
Stainless tubing aids accuracy of radiation analysis system; FEB; 79
Temperature control valves keep chemical wastes on fire; DEC; 40
Temperature monitoring and control update; JUNE; 30
The 10th annual pressure monitoring survey; APRIL; 39
Test your knowledge of local area networks; DEC; 27
Tolerating faults; FEB; 35
Toughening up PCs for industrial use; SEPT; 91
Trends in distributed process control; NOV; 23
Types of networks; MARCH; 35
Update on PC operating systems for control; OCT; 50
Using magnetic speed sensors; NOV; 51
Voice I/O improves productivity; JULY; 53
Wescon/85 attendance to top 80,000; OCT; 58
What's happening at ISA/85?; SEPT; 51
What's new in bus boards?; JUNE; 45
What's new in data loggers and data acquisition systems?; MAY; 45
What's new in programmable controllers; JAN; 37

AUTHORS

Adams, Mark; JAN; 87
Allen, John J. III; JUNE SPECIAL ISSUE; 44
Ansari, Assad A.; SEPT; 33
Beaston, John; JUNE; 45
Benedick, Dale; MARCH; 29
Benke, Don; AUG; 51
Bolton, Tony; MAY; 32
Bonina, Anthony T.; JULY; 49
Bonner, Joe; JUNE; 51
Brady, William R.; JUNE; 27;
Brody, Ken; FEB; 35
Brown, Ron; AUG; 51
Cleaveland, Peter: JAN, 37; MAY, 45; AUG, 37; OCT, 37;
Candy, Don; JULY; 53
Cameron, David; JUNE; 59
Chlebda, David; JUNE; 59
Cohen, Peter A.; JUNE SPECIAL ISSUE; 9
Covert, Paul R.; NOV; 59
Dudzinski, Mark; AUG; 31
Eaton, Robert J.; FEB; 27
Eckard, Mark; JUNE SPECIAL ISSUE; 36
Erickson, John; JULY; 68
Farrar, Lee; JUNE SPECIAL ISSUE; 57
Felder, Heinz; JAN; 65
Friscia, Anthony J.; MARCH; 41
Grierson, Donald K.; JUNE SPECIAL ISSUE; 16
Gruver, William A.; SEPT; 33
Guichard, Robert C.; NOV; 41
Gunn, Thomas G.; APRIL; 59
Hall, John: JAN, 28; FEB, 57; MARCH, 65; APRIL, 39
Hastings, Warren F.; JUNE SPECIAL ISSUE; 44
Haynes, Gene; NOV; 51
Herbst Bob; NOV; 27
Herrod, Dr. Richard A.; MARCH; 45
Hughes, Jerry; SEPT; 45
Hurley, Dr. Noel A.; JUNE; 27
Jaslow, Howard; NOV; 47
Johnson, Harry; JULY; 88
Keyes M.A.; NOV; 23
Koms, David A.; SEPT; 115
Kuljian, Maynard; JUNE; 62
Lawrence, Robert W.; AUG; 45
Lippy, Don; JUNE; 59
Long, Stephen E.; AUG; 45
McQuaid, Jim; OCT; 50
Merritt, Rich: JAN, 28; FEB, 57; APRIL, 71; SEPT, 73; DEC, 22
Meyerhofer, W.L.; SEPT; 91
Mellish, Michael; JAN; 62
Murphy, Thomas E.; MARCH; 54
Nelson, Craig; JUNE; 66
O'Connor, Tom; AUG; 51
Olobri, John; JULY; 61
O'Neill, Kevin; SEPT; 115
O'Riley, Rowan; MAY; 53
Papas, Barbara; MARCH; 45
Pujol, John J.; JUNE SPECIAL ISSUE; 51
Ray, Kevin E.; SEPT; 41
Readinger, Mark; JULY; 53
Ries, Bob; JUNE; 30
Rosenof, Howard P.; JULY; 29
Schmitt Lorenz A.; SEPT; 33
Schoenberg, Steve; SEPT; 81
Schutz, Dr. Henrik; MARCH; 35
Schwarz, Ken; MAY; 63
Seto, Michael S.; JULY; 35
Shenefield, Linda Topp; JULY; 49
Slingland, Ed; NOV; 33
Smith, R.S.; SEPT; 91
Snyder, David N.; JUNE; 33
Spenser, Kenneth; APRIL; 49
Switzer, Cliff; FEB; 49
Thomas, John W.; NOV; 59
Tiddens, Mark; JULY; 41
Trotta, Joseph A.; JUNE SPECIAL ISSUE; 29
Waite, Ralph; JUNE SPECIAL ISSUE; 23
Warren, Cliff; JUNE; 36
Winward, David; JUNE; 59
Whiting, Charles; MARCH; 85
Wylie, Mark; JAN; 59
Zais, Adam; JUNE SPECIAL ISSUE; 9